In the Claims:

Claims 1 and 4 are amended herein. The remaining claims are not amended in this response. New claims 6-13 are added.

1. (currently amended) A numerical analysis system for performing numerical analysis by Finite Volume Method employing Hybrid Grid Adaptation Method, for analyzing data of continuum medium, comprising:

(a) an initial grid memory containing ~~the~~ an initial grid data made by way of free combination of tetrahedral cells, hexahedral cells and pentahedral cells;

(b) a grid dividing adapted means for dividing a cell into plural cells in order to divide a triangular face of a cell into plural triangular faces and divide a quadrilateral face of a cell into plural quadrilateral faces; and

(c) a grid deleting means recovering the former undivided cell by deleting divided cells.

2. (original) The numerical analysis system of claim 1, wherein said grid deleting means comprising:

(c1) a dividing threshold memory containing the dividing threshold;

(c2) a deleting threshold memory containing the deleting threshold;

(c3) a computing means to compute the divide-delete index depending upon the density in each cell;

(c4) a division deciding means deciding to divide the cell when the volume of the cell is greater than the minimum and when the division level of the cell is not maximal and when the divide-delete index is greater than the dividing threshold; and

(c5) a deletion deciding means deciding to delete the cell when the cell is not the initial cell of zero division level and when the divide-delete index is less than the deleting threshold.

3. (original) The numerical analysis system of claim 1, wherein said grid dividing means comprising:

(b1) a prism dividing means dividing a prismatic cell into 8 prismatic cells;

(b2) a hexahedron dividing means dividing a hexahedral cell into 8 hexahedral cells;

(b3) a pyramid dividing means dividing a pyramidal cell into 6 pyramidal cells and 4 tetrahedral cells;

(b4) a simple tetrahedron dividing means dividing a tetrahedral cell into 8 tetrahedral cells; and

(b5) a tetrahedron dividing means dividing a tetrahedral cell into 4 tetrahedral cells and 2 pyramidal cells.

4. (currently amended) A numerical analysis method processing numerical analysis by Finite Volume Method employing

Hybrid Grid Adaptation Method, for analyzing data of continuum medium, comprising:

(a) an initial FVM processing step to calculate the quantity including density of the continuum medium ~~fluid~~ by Finite Volume Method depending upon the initial grid data made by using tetrahedral cells, hexahedral cells and pentahedral cells;

(b) an index processing step to calculate the divide-delete index of each cell depending upon the calculated density;

(c) a division processing step to divide a cell into plural cells in order to divide a triangular face into plural triangular faces and to divide a tetrahedral face into plural tetrahedral faces when the volume of the cell is greater than minimum and when the division level of the cell is not maximum and when the divide-delete index is greater than the division threshold;

(d) a deletion processing step to recover the undivided cell by deleting such cells that the cell is not the initial cell of zero dividing level and the divide-delete index is less than the deleting threshold;

(e) a renewal processing step to create the next grid;

(f) an FVM processing step to calculate the physical quantities including the density of the continuum medium ~~fluid~~ by Finite Volume Method depending upon those grid data; and

(g) a repeating step to repeat those steps of (b) to (f).

5. (original) The numerical analysis method of claim 4, wherein a prismatic cell is divided into 8 prismatic cells, a hexahedral cell is divided into 8 hexahedral cells, a tetrahedral cell is divided into 6 pyramidal cells and 4 tetrahedral cells, a tetrahedral cell is divided into 8 tetrahedral cells or into 4 tetrahedral cells and 2 pyramidal cells.

6. (new) The numerical analysis method of claim 4, wherein said continuum medium comprises a fluid.

7. (new) The numerical analysis method of claim 4, wherein said data of continuum medium comprises a shock wave data of a fluid.

8. (new) The numerical analysis method of claim 4, wherein said continuum medium comprises a compressible fluid.

9. (new) The numerical analysis method of claim 4, wherein said data of continuum medium comprises a shock wave data of a compressible fluid.

10. (new) The numerical analysis system of claim 1, wherein said continuum medium comprises a fluid.

11. (new) The numerical analysis system of claim 1, wherein said continuum medium comprises a compressible fluid.

12. (new) The numerical analysis system of claim 1, wherein said data of continuum medium comprises a shock wave data of a fluid.

13. (new) The numerical analysis system of claim 1, wherein said data of continuum medium comprises a shock wave data of a compressible fluid.